

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

**TRANSLATION**  
**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference  
**049PCT 1796**

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No. <b>PCT/EP2005/001641</b>	International filing date (day/month/year) <b>17.02.2005</b>	Priority date (day/month/year) <b>17.02.2004</b>
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International Patent Classification (IPC) or both national classification and IPC  
**D04H3/02, D04H3/03, D04H3/16, D04H3/10, D01F2/00, D01D5/08, D02J1/08, D06B5/06, D01F2/24**

Applicant  
**FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.**

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/001641

Box No. 1      Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/001641

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-19, 28-33	YES
	Claims	20-27	NO
Inventive step (IS)	Claims	1-19	YES
	Claims	20-33	NO
Industrial applicability (IA)	Claims	1-33	YES
	Claims		NO

2. Citations and explanations:

1 Reference is made to the following documents:

D1: WO 88/05090 A (NESTE OY) 14 July 1988  
(1988-07-14)

D2: DE 25 39 725 A1 (ASAHI KASEI KOGYO K.K; ASAHI  
KASEI KOGYO K.K., OSAKA) 25 March 1976  
(1976-03-25)

D3: EP-A-0 879 906 (LURGI ZIMMER AKTIENGESELL-  
SCHAFT; ZIMMER AKTIENGESELLSCHAFT)  
25 November 1998 (1998-11-25)

D4: GB 955 128 A (N.V. ONDERZOEKINGSINSTITUUT  
RESEARCH) 15 April 1964 (1964-04-15)

2 INDEPENDENT CLAIM 20

The present application does not meet the  
requirements of PCT Article 33(1) because the  
subject matter of claim 21 is not novel under PCT  
Article 33(2).

Document **D1** discloses (cf. **example 2**) a random-laid  
nonwoven composed of continuous cellulose carbamate  
filaments.

The subject matter of claim 21 is therefore not

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INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/001641

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novel.

3 INDEPENDENT CLAIM 23

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 23 is not novel under PCT Article 33(2).

Document **D2** discloses (cf. **examples 7 and 8**) a random-laid nonwoven composed of continuous regenerated cellulose filaments.

The subject matter of claim 23 is therefore not novel.

4 INDEPENDENT CLAIMS 28-33

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 28-33 does not involve an inventive step under PCT Article 33(3).

The inventions according to claims 28-33 consist merely in various uses of the nonwoven known from D1 and D2. However, only those properties of this substance which can already be taken as known from D1 or D2 are utilized. The subject matter of claims 28-33 therefore does not involve an inventive step.

5 DEPENDENT CLAIMS 21, 22, 24-27

Claims 21, 22, 24-27 do not contain any features which, in combination with the features of any claim to which they refer back, meet the PCT requirements for novelty and inventive step.

6 INDEPENDENT CLAIM 1

Document **D1** is considered to be the closest prior art. It discloses (cf. **example 2**) a process for producing nonwovens, from which the subject matter of independent claim 1 differs in that a solution of cellulose carbamate in N-methylmorpholine N-oxide is spun, and in that the filaments are entangled by flow of gaseous medium and/or fluid toward them.

- 6.1 The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The problem addressed by the present application can therefore be considered that of providing a process for producing nonwovens in which continuous cellulose carbamate filaments are entangled.

- 6.2 The solution proposed for this problem in claim 1 of the present application does not involve an inventive step for the following reasons (PCT Article 33(3)): none of the documents cited discloses the spinning of a solution of cellulose carbamate in N-methylmorpholine N-oxide or entanglement of continuous cellulose carbamate filaments (see, for example, D3, column 5 line 34-column 6 line 6). On the other hand, D4 (cf. page 1 lines 11-56 and page 2 lines 40-46) proposes entanglement of continuous regenerated cellulose filaments. Nevertheless, D4 gives no indication to utilize either a solution of cellulose carbamate in N-methylmorpholine N-oxide nor to produce a

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nonwoven. A person skilled in the art therefore would not combine documents D1 and D4 with one another to solve the problem of interest. The subject matter of claim 1 therefore involves an inventive step.

7 DEPENDENT CLAIMS 2-19

Claims 2-19 are dependent upon claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.